



# Frontier Health Markets (FHM) Engage

## DATA AVAILABILITY ASSESSMENT

Mapping of data availability to measure the overall size of the private sector across FP2020 focus countries and comparison of existing estimates for FP market size

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## **Acronyms**

CGA Commodity Gap Analysis

CHAI Clinton Health Access Initiative
CYP Couple-Years of Protection

DHIS2 District Health Information Software
DHS Demographic and Health Surveys

FHM Frontier Health Markets

FP Family Planning

GNI Gross National Income

IFC International Finance Corporation

IHME Institute for Health Metrics and Evaluation

IUD Intrauterine device

LMICs Low- and middle-income countries
MICS Multiple Indicator Cluster Surveys
MNCH Maternal Newborn Child Health

MOH Ministry of Health

NHA National Health Accounts

OOP Out-of-pocket

OP Ouagadougou Partnership

PMA Performance Monitoring for Action

RH Reproductive Health

RHI Reproductive Health Interchange

RHSC Reproductive Health Supplies Coalition

SARA Service Availability and Readiness Assessment
SHOPS Strengthening Health Outcomes of Private Sector
SRH/FP Sexual and Reproductive Health/Family Planning

TMA Total Market Approach
UHC Universal Health Coverage

UNFPA United Nations Population Fund

USAID United States International Agency for Development

VAN Visibility and Analytics Network WHO World Health Organization

## **Executive Summary**

The private health sector includes all non-state actors involved in health, both for-profit and non-for-profit entities, formal and informal providers, as well as domestic and international actors. The heterogeneous private sector has been an important source of healthcare services and product provision in many low- and middle-income countries (LMICs), including family planning (FP). To facilitate an enabling environment for sustainable health transactions, particularly on FP, and maternal, newborn, and child health (MNCH), among other health products and services, it is crucial to understand the collective capacity of the private sector in providing health care services and products.

Using the Universal Health Coverage (UHC) framework to conceptualize the three dimensions of service and product capacity of the private sector, this report summarized the availability of online data on 12 indicators regarding the size and scope of private health sector in 69 FP2020 countries and reviewed current methods used to estimate the market size of family planning products. This report is primarily designed for the broader Frontier Health Markets (FHM) Engage project staff and serves as the background and an inception process in identifying information available for understanding the potential of the private sector provision in health products and services. This will, in turn, inform public and private-sector decision-making to develop an enabling and sustainable market environment.

The data availability assessment found varying amount of data available online for the 12 indicators across the 69 FP2020 countries. Some indicators are generally available, especially if the information is collected or aggregated through global data sources, while others vary widely by geographical region. Compared with the 69 FP2020 countries, the subset of 24 priority FP/RH countries have slightly higher data availability overall. For most of the indicators, data availability across the 69 FP2020 countries is similar across country income groups. However, data are often limited in scope, focused only on a few health conditions. Despite the high overall availability of data on service utilization regarding MNCH through household surveys including Demographic and Health Surveys (DHS) and Multiple Indicator Cluster Surveys (MICS), no data was found on other prevalent disease conditions. Additionally, information on doctors by specialty was not disaggregated either by public or private employ, or by specialty type. These findings underline the need for a broader scope of standardized data, including demand and supply of health services for the major disease burdens in many LMICs.

The comparison of different existing FP market size estimations found all estimates focused on FP products included the use of various data by primary and secondary data collection. Some estimation quantified the public sector market size through a number of data sources, such as data from manufacturers and reporting from different market actors (traders, donors, country governments). Conversely, the Reproductive Health Supplies Coalition's Commodity Gap Analysis generated estimates on the users, consumption quantities, and costs of FP commodity from public and private sectors at national level and by income groups through modeling using a diverse set of data. Except for the Global Family Planning Visibility and Analytics Network (VAN) that aims to provide real-time data, many FP market estimates were conducted at irregular intervals, which may limit their applicability.

This report highlights the need for additional data to understand the size and scope of the private health sector to support country-specific activities. The lack of data availability online indicates the importance to identify local in-country data sources, recognizing the potential barrier in accessing the paper-based or offline data. Such barriers to access data may impede its use for public health actors, policy makers, private investors, and other stakeholders in the private health sector. Partners in-country may use this report as a reference to assess the need for specific in-country data required for understanding the

## Background

The private health sector is an important source of health care provision in low- and middle-income countries (LMICs) (McPake and Hanson 2016), and there has been increasing recognition of its importance in the mixed health systems ("Private Sector Landscape in Mixed Health Systems" 2020). Prior studies estimated the private sector delivers a significant proportion of healthcare services in most regions in the world, ranging from approximately 40 percent in Africa, Latin America, and Western Pacific regions, to over 60 percent in the Eastern Mediterranean region (Montagu and Chakraborty 2021). For specific services, such as treatment for childhood illnesses, the private sector provided more than half of all treatment in LMICs (Grépin 2016), while the private sector has been the predominant source of contraceptives for never married young women in many sub-Saharan African countries (Radovich et al. 2018). Despite the increasing role of the private sector in the finance, supply, and provision of health care products and services (Hallo De Wolf and Toebes 2016), there is limited information on understanding the capacity of the private sector in providing different health care services and products, including family planning (FP), maternal, newborn, and child health (MNCH), among other conditions.

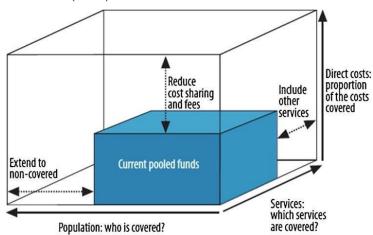
To enable different market actors to contribute towards sustainable health transections, the market development approach applies systems thinking to understand relationships between various market actors and their incentives, accountabilities, and capabilities. One component of such approach is having a system perspective to measure capabilities of the private health sector, which is an important element of market information. Since the private sector is heterogeneous, including all non-state actors involved in health, both for-profit and non-for-profit entities, formal and informal providers, and domestic and international actors (Clarke et al. 2019), it is essential to understand the relative and actual size and scope of this sector in health care provision in order to better facilitate the private health sector's contribution in different health areas, including FP. Having a standardized metric to understand the size, role, and types of services provided by such a wide range of actors can enable better characterization and measurement of the private health sector for the stewardship and governance of different mixed health systems, including resource allocation, system coordination, and market-specific facilitation.

Despite the need for standardized metrics for understanding the private sector's capacities, there have been no agreed measures to identify the size and scope of the private health sector in different countries (Mackintosh et al. 2016). A number of metrics have been proposed for describing the private sector's role through multiple dimensions. For example, Mackintosh (2016) suggests including the private sector's finance patterns, share of private sector in treatment, and public sector's reliance on fees for service. Others have suggested focusing on areas of impact such as access, quality of service, effect of private providers on the broader health system, and stewardship (Wadge et al. 2017), as well as assessing the effectiveness of investments using impact measures (Hana Haile-Mariam and Allison Spector 2016). However, these metrics often capture limited aspects of the private health sector, resulting in restricted applicability in understanding the various dimensions of capacities of private health sector and in different local health markets ("Private Sector Landscape in Mixed Health Systems" 2020).

The three dimensions needed to achieve Universal Health Coverage (UHC), depicted as the UHC cube framework (Figure I), have been widely used to monitor the public sector's progress towards UHC (Ochalek, Manthalu, and Smith 2020). Although the UHC cube framework was not specifically designed to measure the contribution of the private health sector, the three dimensions – population coverage, service coverage, and financial coverage – are useful concepts to understand the private sector's potential in health markets. The population coverage axis measures the extent of population segment served by private health services and products. The service coverage axis demonstrates the types and

extent of private health services accessed by the population. The cost coverage axis illustrates the combination of pooled fund mechanisms and out-of-pocket expenditure in accessing the private health sector. Within mixed health systems, some populations use both public and private services, while others exclusively use one or the other. As such, the private health sector can be perceived both expanding the opaque cube in Figure 1 while also potentially duplicating parts of the area already opaque.

FIGURE I: UHC CUBE FRAMEWORK (WHO)



Using the UHC cube as an organizing framework, Chakraborty et al. suggested 12 indicators to measure the overall size and scope of private health sector with minimal data manipulation required, and which can be applied for cross-country comparisons ("Private Sector Landscape in Mixed Health Systems" 2020) and a standardized approach for understanding the need for local in-country data. As an inception process for enabling pioneering innovation approaches to measure market size and understand submarket operations, it is important to assess data availability across countries for the application of the approach in estimating private health sector size and scope, as well as to review current methods of sub-market estimation.

The Frontier Health Markets (FHM) Engage is a United States International Agency for Development (USAID) project that aims to strengthen health markets to improve health outcomes in mixed health systems. FHM Engage focuses on strengthening local health markets to optimize public and private sector engagement to contribute to sustainable market efficiencies and increased access to FP, MNCH, and other health services, products, and information. This will be achieved through two main result areas: I) improved market environment for greater private sector participation in the delivery of health products and services, and 2) improved equal access to and uptake of high-quality consumer driven health products, services, and information. Within the first result area, this report contributes to intermediate result I.4 (IRI.4), which aims to increase effective collection, integration and utilization of private sector data and market intelligence to inform public and private-sector decision making. Since existing data on the private health sector is often incomplete, of poor quality, and siloed, the lack of market intelligence poses a major constraint to strengthening health market analysis to increase access to and use of health services and products. This report is designed for the broader FHM Engage project staff and serves as the background and an initial process in identifying information available for understanding the collective capacity of the private sector in health products and services.

To contribute towards an innovative approach to diagnose overall health market operations and measure sub-market size under FHM Engage, this report summarizes a data availability assessment based on the 12 indicators proposed by Chakraborty et al. to measure the overall size of the private sector

across the 69 FP2020 focus countries. To compare the existing estimation of market size in submarkets, using family planning as an example, this report also includes a comparison of data available through Reproductive Health Supplies Coalition and the Clinton Health Access Initiative data, and provides recommendations for data needed to estimate private sector size in sub-markets.

## Methodology

## **Objective**

This report aims to primarily provide background information for the broader FHM Engage project staff in identifying available data and estimates online for understanding the collective capacity of the private sector in health products and services, with a focus on FP in current estimates. The report will also facilitate the identification of specific local in-country data for measuring the capacity of private sector health products and services provision to inform public and private-sector decision-making in developing an enabling and sustainable market environment.

This report summarizes the landscape of the availability of data relevant for measuring the overall size of the private health sector in 69 FP2020 focus countries. It also identifies any trends and gaps where data are needed in estimating the overall size of the private health sector, as well as a comparison of existing sub-market size estimation for family planning. The report aims to build an actionable foundation for guiding activities that will facilitate the strengthening of the overall private sector service and product delivery and government stewardship of the private health sector.

## Scope

The data availability assessment encompasses 69 FP2020 focus countries, focusing on the 12 indicators specified in the World Health Organization's report ("Private Sector Landscape in Mixed Health Systems" 2020) (Table 1).

TABLE I: INDICATORS FOR UNDERSTANDING MARKET SIZE AND IMPORTANCE OF PRIVATE HEALTH SECTOR ("PRIVATE SECTOR LANDSCAPE IN MIXED HEALTH SYSTEMS" 2020)

UHC cube axis	Indicator		
Population coverage			
Private sector outlets	Number of private hospitals		
	Number of private pharmacies or drug sellers		
Private sector capacity	Number of private sector hospital beds		
	Number of private sector hospital beds/10,000 population		
Cost coverage			
Revenue	Total revenue of private sector outlets, by outlet type		
Expenditure	Total household expenditure in the private sector		

UHC cube axis	Indicator	
	Domestic private health expenditure per capita (USD)	
Service coverage		
Private sector providers	Number of registered or licensed doctors/midwives in the private sector	
	Number of doctors by specialty in the private sector	
Private sector utilization	Proportion of care sought in the private sector, by disease condition	
Proportion of inpatient care sought in the private sector		
	Proportion of outpatient care sought in the private sector	

The assessment was conducted through an online search of private health sector data for the 69 countries in English, focusing on publicly available administrative data, financial data, and nationally representative surveys. A sub-analysis was also included for the 24 priority family planning/reproductive health (FP/RH) countries. The search focused on identifying data availability, and while the search was thorough, it was not exhaustive.

In addition to the data availability assessment, a comparison of existing FP market size estimation was also performed. Information and methodology regarding the Commodity Gap Analysis and Global Family Planning VAN from Reproductive Health Supplies Coalition and the Clinton Health Access Initiative's family planning market report were reviewed based on information published online.

### **Search Methodology**

The data search strategy included a stepwise process using a combination of online searches through known sources, online keyword search for each indicator, and literature search (see Figure 1). Building on the sources previously identified in the WHO's report ("Private Sector Landscape in Mixed Health Systems" 2020), potential additional sources of data were identified through data sources referenced in these reports and websites. A comprehensive list of sources is included in List 1.

Sources were first searched to identify the availability of data for each indicator in Table I in each of the 69 countries. To supplement these sources, additional keyword searches specific to each indicator were conducted for each country in Google to identify data available from any other official sources. Additionally, a literature search using Google Scholar was implemented using keywords specific to each indicator for countries where no data were found. All searches were conducted between June and July 2022. For each indicator in each country, information on the source, accessibility, type of data, year, and frequency of data collection (if available) was captured in an Excel file. Countries were categorized geographically based on WHO regions and by income level based on World Bank classification. We

subcategorized the Africa region to identify countries that are part of the Ouagadougou Partnership (OP). For the analysis, we included the State of Palestine and West Sahara as a separate group in the

- 1. Online search through known data sources
  - 2. If no data was located, online keyword search for each indicator
    - 3. If no data was located, additional literature search through Google Scholar using indicator

income categorization (other). Summary information of the 24 priority family planning/reproductive health (FP/RH) countries were also included.

#### Review of family planning market size estimation

Available market size estimation on family planning was reviewed. Information from each source listed below was reviewed for the scope of the estimation, availability of the methodology and data source. The following possible sources of market size were included:

Clinton Health Access Initiative (CHAI) Family Planning Market Report
Global Family Planning VAN
Reproductive Health Supplies Coalition (RHSC) Commodity Gap Analysis
FP Watch Project
Performance Monitoring for Action (PMA) Agile Project
DKT International: Contraceptive Social Marketing Statistics

#### **Limitations**

Given the limited project time frame, this search strategy has several limitations. Not all administrative and financial data is available online from the 69 countries and some data published online may not be the most recent version despite our efforts to identify the most recent official data through searching the organization (including the specific government ministry) website. As the desk review focused on publicly available data online, purchasable data on private sector is not included in this report. Given the purpose of this report focuses on data availability, we did not assess the quality of the data and there may be additional data sources not available online that offer higher quality data. Although interviews with practitioners who developed the RHSC and CHAI data would

#### List I. Data sources from online search

US International Trade Administration

**USAID SHOPS PLUS reports** 

World Bank

International Finance Corporation (IFC) reports

National Health Accounts (NHA)

Service Availability and Readiness Assessment (SARA)

Health System in Transition Reports

National Master Facility Lists

District Health Information Software (DHIS 2)

Institute for Health Metrics and Evaluation (IHME)

WHO Global Observatory

Private Health Sector Assessments

WHO Health Workforce Snapshots

WHO National Health Workforce Accounts

Human Resources for Health Survey

Multiple Indicator Cluster Surveys (MICS)

Demographic and Health Surveys (DHS)

International Household Survey Network

National Health Surveys/ Population and Health Surveys

Household Income and Expenditure Surveys / Household Socio -economic Survey

Living Standards Measurement Survey / Living Conditions Survey

Family Life Surveys

be pertinent in understanding the considerations of the estimation methodologies, this report is restricted by the project time frame and the comparison is based on publicly available description only. Due to the limited time for the project, the online search was only conducted in English, and hence data that can only be accessed through the local official language have not been included in this report, but future iterations of this search may include a local official language search to ascertain the availability of data.

## Data Availability Assessment

Among the 69 countries assessed for data availability for the 12 indicators, no country had complete data for all 12 indicators. On average, countries have data available for six out of the 12 indicators. Across regions, countries' data availability on the indicators varies, with Southeast Asia having the widest range (0-10) (Table 2). Priority FP/RH countries have slightly higher data availability (median: 7.5 indicators, range: 5-10) (see section on Data Availability of Priority FP/RH Countries for more information). The two territories (Palestine and Western Sahara) included in the assessment have limited data available on the indicators for the private health sector. As shown in Table 3, overall data availability for all 12 indicators by income level were similar between low-income and lower-middle income countries.

TABLE 2: NUMBER OF INDICATORS WITH DATA AVAILABLE BY WHO REGION

Region	Median number of indicators with data available (range)
Africa Region – non-OP countries (n=28)	6.5 (3-10)
Francophone West African Region – OP countries (n=9)	6 (5-9)
Eastern Mediterranean Region (n=9)	4 (1-7)
European Region (n=3)	4 (4-6)
Region of the Americas (n=4)	4.5 (4-8)
Southeast Asian Region (n=9)	7 (0-10)
Western Pacific Region (n=7)	7 (4-10)

TABLE 3: NUMBER OF INDICATORS WITH DATA AVAILABLE BY COUNTRY INCOME LEVEL

Region	Median number of indicators with data available (range)
Low-income (n=27)	6 (0-9)
Lower-middle income (n=39)	7 (2-10)
Upper-middle income (n=1)	4
Others (n=2)	2 (1-3)

<sup>\*</sup>Note: Others include State of Palestine and Western Sahara

### **Population Coverage Axis**

The population covered by the overall private sector can be assessed through having information on the number of private sector outlets (hospitals and pharmacies) and capacity of private hospitals provided per population. These private sector entities – hospitals and pharmacies, are qualified to provide a range of health care services and products, including reproductive health services and family planning commodity provision. Although informal channels, including drug shops and health kiosks, are common

sources of FP services and commodities, this desk review focused on formal private sector entities to provide an overview of the data that should be more accessible. Data on these outlets provides a preliminary measure of the scale and market importance of the private health sector in a country.

#### **Private sector outlets**

#### **Number of private hospitals**

Data on the number of private hospitals from one or more sources were the most available within the population coverage axis (n=48, 69.6%). Most recent data available ranged from 2004-2022. No noticeable pattern is observed by income level: 18 (66.7%) low-income countries have an estimate of number of private hospitals compared to 29 (74.3%) low-middle income countries (Figure 2). Countries in Western Pacific region and Southeast Asian region had higher data availability on this indicator than other regions (Figure 3).

Data on this indicator was predominantly from administrative sources. Master Facility Lists from Ministries of Health that contain data on private hospitals were available for 15 countries, the majority of which were within the last five years. Data from a small number of countries came from surveys, such as the Service Availability and Readiness Assessment (SARA).

#### **Number of private pharmacies**

Data on the number of private pharmacies was identified from 25 (36.2%) countries. Most recent data available ranged from 2004-2022. Data availability was higher in the Southeast Asia (n=5, 55.7% of countries) and the Western Pacific regions (n=5, 71.4% of countries) (Figure 3). Data on this indicator was more available in low-middle income countries (n=17, 43.5%) compared to low-income countries (n=8, 29.6%) (Figure 2).

Data on this indicator were obtained mostly through reports from global health organizations, such as USAID, World Bank, and WHO, and a few countries' information could be accessed through purchasable market research (24%). Data from purchasable market research were recent, with data available between 2020-2022.

#### **Private sector capacity**

#### Number of private hospital beds

This review found that only 16 (23.2%) of the countries have data available on the number of private hospital beds available. Most recent data available ranged from 2010-2022. More of the countries with data on the number of private hospital beds were in lower-middle income countries (n=14, 35.9%) compared to low-income countries (n=2, 7.4%) (Figure 3). There was a lower proportion of available data sources for this indicator in the Africa region not within the OP (n=4, 14.3%), OP countries (n=2, 22.2%), and Western Pacific region (n=1, 14.3%) compared to the Southeast Asian region (n=6, 66.7%) (Figure 3).

Data on this indicator were available mostly from reports from global health organizations such as WHO's health systems in transition and USAID SHOPS project, and for one country (Kenya) from its national Master Facility List.

#### Number of private sector hospital beds/10,000 population

The number of private beds per 10,000 population can be calculated for the countries with available data on number of private hospital beds, as the size of population in the countries were readily available.

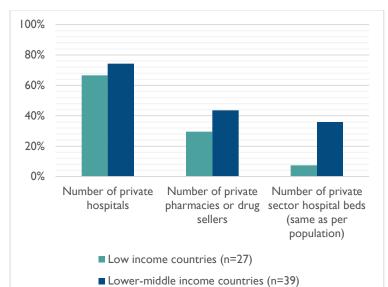


FIGURE 2: PROPORTION OF COUNTRIES WITH POPULATION COVERAGE DATA BY INCOME LEVEL

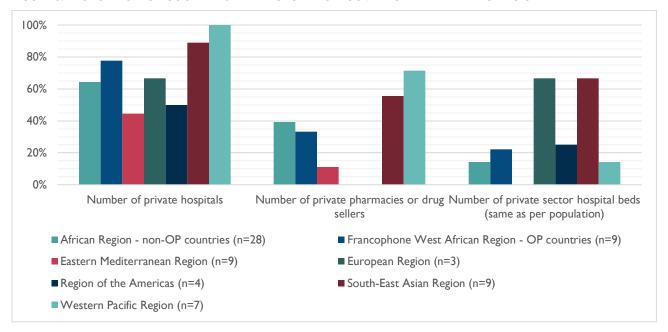


FIGURE 3: PROPORTION OF COUNTRIES WITH POPULATION COVERAGE DATA BY WHO REGION

## **Financial Coverage Axis**

Financial coverage, or expenditure within the private sector, can be assessed through information on revenue for the private health sector or expenditure in the private health sector. Information on these metrics provides measurement on the size of the market and the importance of the private health sector within the country's economy. Data on these indicators also allows for the estimation of financial burden on the population resulting from accessing private health services.

<sup>\*</sup>Note: State of Palestine and Western Sahara had no data; only I country (Iraq) is in upper-middle income category and not shown in the figure.

#### Revenue

#### Total revenue of private sector outlets, by outlet type

No data sources for any of the 69 counties were identified for total revenue of private sector outlets, by outlet type.

Government revenue service usually maintain records of the taxes on business entities, and customs authorities maintain records of the duties on pharmaceutical imports. Accessing these records and the stated value of pharmaceutical imports could inform revenues in the private health sector. While data on this indicator likely exist, especially for qualified for-profit private sector outlets, such information was not available online.

#### **Expenditure**

#### Total household expenditure in the private sector

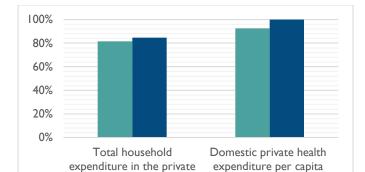
Total household expenditure in the private sector can be approximated by using total out of pocket (OOP) health expenditure together with data on proportion of OOP expenditure spent in the public sector. This review found that 56 (81.2%) countries had data for both total OOP health expenditure and available data on proportion of OOP expenditure in the public sector. The most recent available data ranged from 2005-2021. Data availability was similar between country income levels (Figure 4) and geographical regions (low percentage in the region of the Americas, but a small number of countries were included) (Figure 5), and no data were available in the State of Palestine and Western Sahara.

Data on this indicator were found through two sources: WHO's Global Health Expenditure Database and National Health Accounts. The Global Health Expenditure Database provides standardized data on total OOP health expenditure, which was available for 65 (94.2%) countries. No data were found in the Democratic People's Republic of Korea, Palestine, Somalia, and Western Sahara.

#### Domestic private health expenditure per capita (USD)

Data on this indicator were available for 65 (94.2%) countries. Data availability was similar between country income levels (Figure 4) and geographical regions (Figure 5).

Data on this indicator were found in WHO's Global Health Expenditure Database. Like the total household expenditure in the private sector indicator, no data were available for the Democratic People's Republic of Korea, Palestine, Somalia, and Western Sahara.



sector

■ Low income countries (n=27)

■ Lower-middle income countries (n=39)

FIGURE 4: PROPORTION OF COUNTRIES WITH COST COVERAGE DATA BY INCOME LEVEL

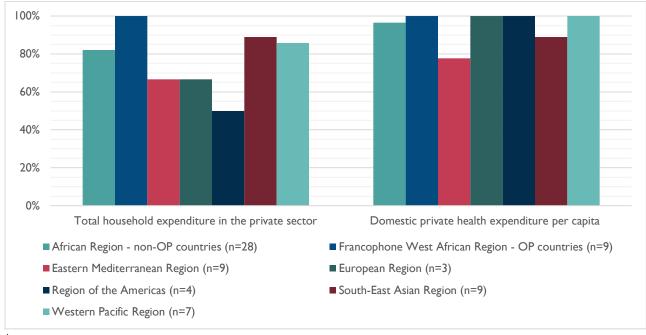


FIGURE 5: PROPORTION OF COUNTRIES WITH COST COVERAGE DATA BY WHO REGION

## **Service Coverage Axis**

Understanding how the private sector is utilized, and for what services, can provide information on potential for market expansion. Service coverage can be measured by metrics on private sector providers by specialty and utilization of private sector services by types of care and disease conditions. Information on private sector providers, by specialty, provide the foundation for the extent of supply for services and can inform strategies for quality assurance, as well as for increasing overall service availability. Data on private sector utilization by disease and types of care informs the extent of demand

<sup>\*</sup>Note: State of Palestine and Western Sahara had no data; only I country (Iraq) is in upper-middle income category and not shown in the figure; no data was found on Total revenue of private sector outlets.

<sup>\*</sup>Note: No data was found on Total revenue of private sector outlets.

for private health services from the population. Having data on both metrics enables consideration of the size and scale of private health services from the supply and demand perspectives, as well as specific to disease and types of care.

#### **Private sector providers**

## Number of registered or licensed doctors/midwives in the private sector

Data on this indicator was available for 54 (78.3%) of the countries. Most recent data available ranged from 2005-2020, and a high proportion of countries have data that were not older than 5 years (69.8%). Data on the number of registered doctors were more available in low-income countries (n=25, 92.6%) than lower-middle income countries (n=28, 71.8%), and more available in Africa region (including OP countries) (100%) and region of the Americas (75%) (Figure 7). Few countries in Southeast Asian region had data on this indicator (44%).

The State of the Health Workforce in the WHO African Region Report provides information for all 36 focus countries in the Africa region. While number of health workers by cadre was available by country and an aggregated proportion of the health workers working in private sector in the Africa region by cadre was available, the specific proportion of health workers working for the private sector was not disaggregated by country in the report. Other sources of data on this indicator include predominately administrative data directly or indirectly from Ministries of Health.

#### Number of doctors by specialty in the private sector

Data on this indicator were found in 38 of the countries (55.1%). For the African region (including the OP countries), information was collated in the State of the Health Workforce report and resulted in a high availability of data on this indicator. However, number of doctors were disaggregated only by generalist vs. specialist and no information was available on the type of specialty. The most recent data available ranged from 2012-2018; due to the nature of the collated data in the State of the Health Workforce report, available data was predominantly collected within the last 5 years and included all countries in the African region (including OP countries).

Very limited data were available beyond the State of Health Workforce report. Professional organizations such as Medical Federations do not have publicly available databases on the number of members or whether they practice in the public sector, the private sector, or both. Some countries have physician directories by specialty, but they had no differentiation for private vs. public sector.

#### Private sector utilization

#### Proportion of care sought in the private sector, by disease condition

The proportion of care sought in the private sector by disease condition indicator was found in 66 (95.7%) countries. Most recent data available ranged from 2007-2021. Half of the countries have data within the last five years (n=33). No noticeable difference was observed comparing countries by their income level (96.3% of low-income countries have data; 94.8% of lower-middle income countries have data; Figure 6). Two countries in the Southeast Asian region and one country in the Eastern Mediterranean region had no data on this indicator (Figure 7). Although a high proportion of countries have data on this indicator, almost all data on disease conditions only included maternal, newborn, and child health (MNCH) and FP. Besides MNCH, only one survey asked for self-reported disease/symptoms in last 30 days, and another on acute illnesses. Among the various MNCH conditions, delivery (where women chose to deliver) is the condition that has the most available data across countries in the private

sector, followed by contraceptive access. Questions on contraceptive access often included information on the specific methods and the channel of private sector.

Private sector healthcare utilization by disease information were found predominantly from the DHS and MICS in each country. While additional sources were identified on this indicator, including national health surveys, household expenditure surveys, and living standards surveys, and disease conditions, surveys on care sought remained focused on MNCH conditions.

#### Proportion of inpatient care sought in the private sector

Data on inpatient care sought in the private sector was available among 23 (33.3%) of the countries. The most recent data available ranged from 2007-2020, and about a quarter of those were collected within the last five years. No noticeable difference was found on data availability comparing countries by the two income levels that encompass most countries (33.3% of low-income countries, 35.9% of lower-middle income countries) (Figure 6). Comparing data availability by geographical region, data availability was highest among focus countries in the Western Pacific region (85.7%) and the lowest among focus countries in the European region (0%, only includes 3 of the focus countries), Africa region (25.0% of focus countries not in OP, 22.2% of OP countries), and Eastern Mediterranean region (25%).

Data on this indicator primarily were found from a range of population-based surveys, including DHS, household socio-economic surveys, and integrated household surveys. Majority of the data on inpatient care was not specific to any disease condition. Duration of recall was generally the last 12 months. A small subset included a question on location for childbirth, and one collected information on the disease for which treatment was sought in a hospital.

#### Proportion of outpatient care sought in the private sector

Data availability on outpatient care sought in the private sector was slightly higher than inpatient care (36.2%). The most recent data available ranged from 2001-2020, and 40 percent were collected within the last five years. No noticeable difference was found on data availability comparing countries by the two income levels that encompass most countries (33.3% of low-income countries, 38.5% of lower-middle income countries) (Figure 6). Similar to data on inpatient data, data availability was highest among focus countries in the Western Pacific region (85.7%) and the lowest among focus countries in the European region (0%, only includes 3 of the focus countries), Africa region (28.6% of focus countries not in OP, 11.1% of OP countries), and Eastern Mediterranean region (33.3%) (Figure 7).

Data sources on this indicator were very similar to those from sources on inpatient care, and most did not include information on conditions that led to outpatient care seeking. While duration of recall was generally within the last 30 days, some used recall in the previous three months or previous year.



FIGURE 6: PROPORTION OF COUNTRIES WITH SERVICE COVERAGE DATA BY INCOME LEVEL

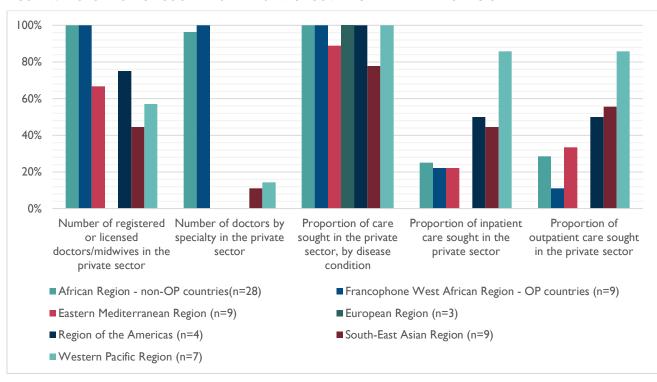


FIGURE 7: PROPORTION OF COUNTRIES WITH SERVICE COVERAGE DATA BY WHO REGION

## Data Availability of Priority FP/RH Countries

Compared with the 69 FP2020 focus countries, 24 Priority FP/RH countries (a subset of the 69 countries) have slightly higher data availability overall. Table 4 shows the number of indicators with

<sup>0%</sup> Number of Number of doctors Proportion of care Proportion of Proportion of registered or by specialty in the sought in the private inpatient care sought outpatient care licensed sector, by disease in the private sector sought in the private private sector doctors/midwives in condition sector the private sector ■ Low income countries (n=27) ■ Lower-middle income countries (n=39) ■ Others (not classified) (n=2)

<sup>\*</sup>Note: Others (not classified) include State of Palestine and Western Sahara; only I country (Iraq) is in upper-middle income category and not shown in the figure.

available data for each country. Among the 24 countries, Haiti had data available for the least number of indicators (5), while Bangladesh, India, and Tanzania had data available for the greatest number of indicators (10).

TABLE 4: NUMBER OF INDICATORS WITH DATA AVAILABLE FOR THE 24 PRIORITY FP/RH COUNTRIES

Country	Number of indicators with available data
Afghanistan	7
Bangladesh	10
Democratic Republic of Congo	9
Ethiopia	8
Ghana	6
Haiti	5
India	10
Kenya	9
Liberia	8
Madagascar	7
Malawi	9
Mali	6
Mozambique	7
Nepal	6
Nigeria	8
Pakistan	7
Philippines	8
Rwanda	8
Senegal	6
South Sudan	6
Tanzania	10
Uganda	9
Yemen	6
Zambia	6

Figure 8 shows the proportion of the priority FP/RH countries with data for each of the 12 indicators. Data was available for all countries for five indicators: number of private hospitals, domestic private

health expenditure per capital, total household expenditure in the private sector, number of registered or licensed doctors/midwives in the private sector, and proportion of care sought in the private sector, by disease condition. Besides information on total revenue of private sector by outlet type, there were the least information on number of private sector hospital beds in these countries.

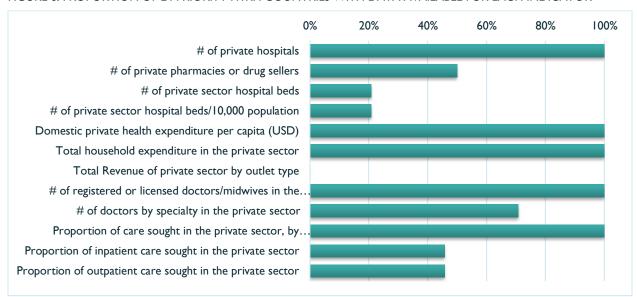


FIGURE 8: PROPORTION OF 24 PRIORITY FP/RH COUNTRIES WITH DATA AVAILABLE FOR EACH INDICATOR

# Comparison of Data Availability in Sub-Market Estimation: Family Planning

Market size estimation on products and users has been performed in some sub-markets, among which family planning has been a leading sector. This section provides a summary review of existing market size estimations available in family planning, including identifying data available through these market size estimations. The focus is to determine the types of data required and applicability of these existing FP estimations for other sub-markets beyond family planning.

Most of the market size estimations on FP focused on commodities. Table 5 shows the different market size estimations and their key characteristics. These estimates were designed for various intended users, ranging from the Global Family Planning VAN which improves collaboration through open data sharing between countries, to PMA Agile Project that focuses on monitoring key health and development indicators.

TABLE 5: SUMMARY OF FP MARKET SIZE ESTIMATION METHODS

Market size estimation methods	Sector	Number of Countries	Types of data sources
Clinton Health Access Initiative (CHAI) Family Planning Market Report	Public sector	69 FP2020 countries	Historical and upcoming contraceptive shipment data from suppliers and procuring organizations, donors shipment reports
Global Family Planning VAN	Public sector	37 countries (of which 36 are LMICs)	Order, shipment, inventory, and/or supply plan from governments, global procurers, and other actors in contraceptive supplies within the public sector
Reproductive Health Supplies Coalition (RHSC) Commodity Gap Analysis 2019	Public and Private sectors	135 LMICs	Model-based estimates on number of users, household surveys (DHS, PMA2020) on users in private sector and unit price purchased, FPwatch, IQVIA data on unit price in retail sector, private data sources on price
FPwatch Project	Public and Private sector	5 countries	Survey of FP Outlets (Primary data)
Performance Monitoring for Action (PMA) Agile Project	Public and Private	11 Countries	Survey of sample facilities and client exit interviews (primary data)
DKT International: Contraceptive Social Marketing Statistics	Mostly Private (non-profit)	100 Countries	Sales reports from private sector

# Clinton Health Access Initiative (CHAI) Family Planning Market Report

The CHAI family planning market report focuses on quantifying the total public-sector family planning market in the 69 FP2020 countries. The public-sector family planning market was estimated by including volumes of different types of family planning products purchased by institutional buyers (e.g., USAID, UNFPA, social marketing organizations), the Ministry of Health, and government-affiliated procurers. Data from the Reproductive Health Interchange (RHI) and all institutional purchases, as well as Ministry of Health tenders from suppliers, were collected to produce the estimates. All modern contraceptive methods were included in the report.

Two sources of data were described to calculate the volume of the FP2020 public-sector market: the RHI database and data from the FP2020 Global Markets Visibility Project. While RHI provides harmonized data on contraceptive orders and shipments, the database included historical procurement data from only a subset of procurers, and national procurements data was missing from many countries. As such, the CHAI report included data on historical volumes provided directly by suppliers to address data gaps in RHI shipment data. CHAI entered a formal Memorandum of Understanding with each manufacturer or through collaborations with the Generic Manufacturers Caucus for Reproductive Health and i+solutions to obtain data from suppliers (Clinton Health Access Initiative and Reproductive Health Supplies Coalition 2021).

As the report only includes data for the public sector, it is not directly applicable for private sector market size estimation. The report also does not include a detailed description of their analysis methodology. However, the approach of collecting commodity volume data from suppliers may be implemented for private market size estimation. This approach estimates only from the consideration of supply side and does not include demand side factors. It also requires willingness to share such data from product suppliers in the private sector.

## Global Family Planning VAN

The Global Family Planning VAN is a supply chain networking platform where members (e.g., country governments, donors, manufacturers, shippers, and other trading partners) can assess and prioritize supply needs and act when supply imbalances materialize. Similar to the CHAI Family Planning Market Report, the Global Family Planning VAN includes information regarding the public sector. But unlike CHAI's market report, which provides information for the public market on FP commodities on a yearly basis, the Global Family Planning VAN focuses on providing up-to-date information along the supply chain of public sector FP commodities. It was designed to enable collaborative supply chain management by governments, global procurers, and other actors in contraceptive supplies within the public sector.

## Data sources for the CHAI's public-sector market estimates

Four data sources were reviewed to develop CHAI's market analyses:

- FP2020 Global Markets Visibility Project:
   Historical shipment data by product and
   country from 16 suppliers for each of the 69
   FP2020 focus countries. Data was collected
   directly from suppliers.
- U.S. Agency for International Development (USAID) Overview of Contraceptive and Condom Shipments Report: Yearly spending from USAID on contraceptives (USAID fiscal year).
- The United Nations Population Fund (UNFPA)
   Procurement Services Branch (PSB)
   Procurement Data: Estimates the value of the
   contraceptive procurement conducted by
   UNFPA for FP2020 countries. Values included
   commodity costs and excludes services such as
   freight, sampling, inspection, and testing.
   Reporting was based on calendar year.
- Reproductive Health Interchange (RHI):
   Historically collected data on past and
   upcoming contraceptive volume shipments for
   over 140 countries. Frequency of data
   submission depends on data provider.
   Database aimed to capture contraceptive
   purchase from UNPFA and USAID, MSI and
   IPPF, government procurement, and other
   procuring organizations.

Within the platform, members can share their order, shipment, inventory, and/or supply plan and can work together to resolve supply chain inaccuracies, answer questions, and make decisions. Currently, there are more than 90 member institutions from 37 countries sharing their contraceptive supply data within the VAN, including 36 LMICs (Reproductive Health Supplies Coalition n.d.).

This database makes it possible to see what reproductive health products are purchased for the public sector, by whom, and allows more transparency and insight into redundancies and budgeting for the future. Although direct access to the VAN platform is only available to authorized users, RHSC created a set of public-access dashboards (RH Viz) that integrate historical procurement data from the RHI with live procurer shipment data from the VAN. The variables listed on the public-access dashboards include country, contraceptive methods, supply-side funder, and year. Additionally, members can access information on order, shipment, and supply plan. These are available for 67 of the FP 2030 countries.

Limited information is available on the methodology publicly, although some information on data interface and its architecture was described in a document on interface specifications and guidelines. Details on specific sources by variable were not described in detail.

As the Global Family Planning VAN only includes public sector FP commodities, it is not directly applicable for private sector market size estimation. While the platform was designed to improve collaboration through open data sharing, the approach may not be feasible in the private sector where sharing of detailed information across companies and facilities in real time would not be practical given the competition for market share. In many countries, data on private sector commodities are essential to accurate estimations of the FP sub-market. These data could be obtained through various means, such as if manufacturers would be willing to share quarterly sales data by country with non-competing entities (such as neutral third parties), or to purchase through entities that have been collecting private sector sales data like IQVIA.

## Reproductive Health Supplies Coalition (RHSC) Commodity Gap Analysis 2019

The RHSC Commodity Gap Analysis report in 2019 included data and analyses on users, quantities, and costs in both public and private sectors in 135 LMICs (Reproductive Health Supplies Coalition 2019). Within the private sector, it also includes information on donor-subsidized products. The following analyses were presented in the report that included information on the private sector aggregated across the LMICs, or by GNI groups:

#### Users

- Number of users of contraception, by method, comparing public vs. private sector
- Proportion of users within the private sector by method, comparing private subsidized vs. private non-subsidized
- Proportion of method mix within the private sector by GNI group

#### Cost

- Consumption cost of contraception, by method, comparing public vs. private sector
- Regional averages of private sector prices by method among LMICs, segmented by private subsidized vs. private non-subsidized
- Proportion of subsidized prices as a share of non-subsidized prices, regional averages among LMICs
- Proportion share of consumption costs within private sector by GNI group

TABLE 6: DATA SOURCES FOR RHSC COMMODITY GAP ANALYSIS ESTIMATES ON NUMBER OF USERS AND CONSUMPTION COSTS OF FP COMMODITIES IN THE PRIVATE SECTOR

Types of data used for estimation of number of users and consumption costs of FP commodities in the private sector in RHSC 2019 Commodity Gap Analysis

#### Estimation of total users and method mix by country

FP2020 Progress Report

United Nation Population Division (UNDP)'s model-based estimates

National household survey with estimate of method mix (or regional average when no survey is available)

#### Estimation of users and segment of FP methods used in private sector by country

DHS (source by FP method – access through private sector; regional averages were used if no DHS survey)

CGA 2019 market volume estimates with data compiled on volumes of subsidized products provided by FP method and country

#### Estimation of average unit price by FP method

DHS (questions on how much women paid for their current FP method last time they obtained the method)

PMA2020 (household-based survey; amount of fees paid for FP services in the last 12 months, divided by estimate of average number of units consumed per year for each FP method)

IQVIA (retail price of implants, injections, and pills from 59 LMICs; of those 40 with both price and volume)

FPwatch (median unit price from all private sources for each FP method from 5 countries)

Adding It Up (unpublished country-specific costs for contraceptives and associated supplies)

RHSC survey on procurement prices paid by Latin American and Caribbean governments

Other private sources (mix of published and unpublished data sources on price sold at point of delivery, e.g., SHOPS Plus Private Sector Assessments, unpublished price data obtained from NGOs, and unpublished Track20 data from private facility audits in selected countries)

The report described a range of data sources for private sector consumption cost estimates but offers limited description of each source and methodology. Instead, a detailed description of methodology and resulting estimates by country was available through a peer-reviewed article (Weinberger, Bellows, and Stover 2021). Estimates of private sector consumption costs (equivalent to out-of-pocket expenditures in the private sector) on FP commodities were calculated by multiplying (I) estimates of the volumes of commodities consumed by users and (2) the estimated prices paid for the commodities. OOP expenditures were categorized into subsidized and non-subsidized components.

The Commodity Gap Analysis estimated the size of the private sector by type of FP commodity through two aspects: I) estimated volume of commodities from the perspective of demand (users), and 2) consumption cost with a combination of users and outlet information. It utilized a wide range of sources

available to generate a median price point for each FP method by country. Aside from the difference of estimation for sector (public vs. private), this approach estimated market size from demand (volume estimates) while the CHAI Family Planning Market estimate and the Global Family Planning VAN were designed to estimate from supplies.

The Commodity Gap Analysis approach offers an estimation on FP commodities applicable across 132 LMICs through a comprehensive use of data sources. Although some of the data sources were not published, the approach may be applied to other sub-markets by identifying similar data sources for the specific health topic. However, the availability of similarly representative data sources for other sub-markets will need to be explored.

## **FPwatch Project**

The FPwatch project focused on strengthening commodity and service delivery in family planning by conducting surveys of family planning outlets to provide family planning market data (Population Service International n.d.). These surveys were intended to complement other health facility surveys, such as the Performance, Monitoring, and Accountability 2020 (PMA 2020) surveys, by providing a rigorous, robust, and in-depth look at contraceptive markets. The FPwatch methodology was distinct from other surveys that it conducted a full census of all facilities (both public and private) potentially offering FP products or services within selected geographic areas, rather than a sample of facilities (Babazadeh et al. 2018). Data collection took place in five countries: Democratic Republic of Congo, Ethiopia, India, Myanmar, and Nigeria. FPwatch reports are available for the five countries and include percent market share for both public and private sectors, based on the calculation of the couple-years of protection (CYPs) contribution of each outlet type (public health facility, community health worker, private not-for-profit total, private for-profit facilities, pharmacy, and drug shop). These reports also include information on private sector contraceptive method market share, such as the relative proportion of total CYP sold/distributed, by method and outlet type.

Previous research used these data to present the potential market for modern contraception provision by public. clinics, private clinics, pharmacies, and general retailers (Riley et al. 2018). Although the FPwatch project is a market-specific outlet survey that can theoretically be applied for other submarkets, the project only conducted a single round of data collection. Furthermore, data collection would be resource intensive to be applied nationally for the purpose of estimating market size in a country, especially if such estimates should be reassessed over time.

## Performance Monitoring for Action (PMA) Agile Project

The PMA Agile project is a data monitoring and evaluation system that collects data on family planning service delivery and consumption through quarterly public and private health facility surveys and semi-annual client exit interviews in urban areas. Percent distribution of CYP at private facilities by method type is included in PMA Agile reports (JHPIEGO n.d.).

Previous research also used PMA Agile data to examine trends of client visits for specific methods by sector and the resulting estimated protection from pregnancy by sector and method in selected countries (Muhoza et al. 2021). The measurement of availability (stockout) and client volume by outlet enables estimation of outcome (protection from pregnancy) through public and private sector. Like the FPwatch project, outlet-based surveys can be tailored for application in other sub-market size estimations but are resource intensive.

## **DKT International: Contraceptive Social Marketing Statistics**

DKT International published statistics for contraceptive social marketing programs that report their sales data to DKT (DKT International n.d.). DKT International published a yearly report on the sales results from social marketing programs that generate at least 10,000 CYPs in a given year, although some programs were not included in the report due to lack of reporting. Sales are primarily made to the private sector, including clinics, supermarkets, mini-markets and other kinds of shops. Although the report also included some programs that sell products to other NGOs and to the public sector. Data are available between 1991-2021 for 100 countries, by method, including condoms, injectables, implants, pills, and emergency contraception.

The DKT report on contraceptive social marketing statistics provides a comprehensive source in this sector. However, the extent of missing data in the report is unclear, both because of social marketing programs which might be missed by the report, and more importantly because of the for-profit services not included in social marketing. Having additional data on the estimation of market share of each social marketing product by country will help to determine the size of the private sector contraceptive commodities. DKT is a unique provider in social marketing contraceptive products given its significant role in the social marketing of contraceptive products globally. Thus, similar sources of data for other sub-markets may not be readily available. However, collection of sales data from various social marketing organizations for other sub-markets may be feasible.

## Conclusion

This report serves as the inception process for enabling pioneering innovation approaches to diagnose overall health market operations and measure sub-market size. Applying the WHO framework and indicators developed by Metrics for Management, this data availability assessment provides a landscape overview of the patterns, types, and sources of data available for each of the 12 indicators for overall size of the private health sector in each of the 69 FP2020 focus countries. This report also reviews existing market size estimations available in family planning and identifies data available through these market size estimations, where feasible.

This data availability assessment finds varying availability of data for the 12 indicators across the 69 FP2020 countries. Whereas some indicators were generally available, especially if the information is collected or aggregated through global data sources, others varied widely by geographical region. Conversely, the availability of most indicators appears to be similar across country income groups. However, data are often limited in scope, focused only on a limited set of sub-markets, such as MNCH and FP. Despite the high overall availability of certain indicators through household surveys including DHS and MICS, data were mostly restricted to MNCH and FP, and no data was found on other prevalent disease conditions. Additionally, information on doctors by specialty was not disaggregated either by public or private employ, or by specialty type. Although certain healthcare services may be provided by other cadre of health care providers, the limited information on doctors' specialty by sector, a formal and highly trained profession, in most countries indicates the challenge of estimating private sector capacity for different types of healthcare services provision. These findings underline the need for a broader scope of standardized data, including demand and supply of health services for the major disease burdens in many LMICs, as well as access to routinely updated data on the size and distribution of outlets important for general and specific healthcare needs to provide the services and products, such as FP.

Comparing different existing FP market size estimations, this report found these estimates focused primarily on volume of FP products, with some estimates on public sector only while others included both public and private sector. Data from manufacturers and other market actors (traders, donors, country governments) have been used to estimate FP products in the public sector. More comprehensive estimates were produced by Reproductive Health Supplies Coalition's Commodity Gap Analysis, including users, consumption quantities, and costs of FP commodity from both public and private sectors at national level and country income groups. The estimates were generated through modeling using a diverse set of data. Most of the FP market estimates were conducted at various intervals, except for the Global Family Planning VAN that focuses on providing ongoing real-time data. The restricted scope and focus of the various FP estimates, together with the frequency of updates, may limit their in-country utilization.

As this assessment is designed to contribute towards developing and testing innovative measures for overall and sub-market size estimation, these results will help to inform market actors in country to identify the need for specific in-country data to understand the private sector size and scope. This desk review prepares the development of the use case for country collection and analysis and the utility for market governance for country adoption. The comparison of different existing family planning market size estimations will also facilitate the development of a method for estimating the size and scope of a sub-market that can be applied across different health areas. The comparison of data availability and utility for market size estimation in family planning facilitates the process of identifying different types of data that would serve similar functions in other sub-markets.

This report also provides background information for the broader FHM Engage project in compiling different data sources and highlights the need for additional data to develop estimates for the overall size and scope of the private health sector to support country-specific activities. Although the lack of data availability online does not imply the non-existence of such data elsewhere, the barrier in accessing paper-based or offline data is likely to impede its use for public health actors, policy makers, private investors, and other stakeholders in the private health sector. Partners in-country may use this report as a reference to determine the specific additional in-country data required for understanding the private health sector, and the feasibility of identifying, retrieving, or collection such information.

## Next Steps for Identifying Country Data

This report summarized the preliminary information available in relation to the overall size and scope of private health sector across 69 countries, underlining the need for additional in-country data to understand the specific market of interest. Prior to attempt accessing paper-based data, market actors may explore subnational facility information through the regional administrative unit and/or regional ministry of health to understand the local distribution of different types of private health facilities or entities. As many LMICs continues to formalize the informal health sector, such as drug shops, inquiries should be made to identify the extent of data available from local regulators and associations. Additionally, data on formal health professionals may be available from country's professional associations, besides the regulatory body. Discussion with local market actors will further inform the availability of local data. Additionally, collated private sector information from other in-country non-governmental organizations may be available and should be explored to facilitate better understanding of market information of specific health markets of services and products.

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## Annex I. Indicators by Country

This annex is found in the first tab "Indicators by country" of the electronic file entitled "FHM\_I.4B\_annex.xls"

# Annex 2. Data source details by indicator and country

This annex is found in the second tab "Data source details" of the electronic file entitled "FHM\_I.4B\_annex.xls"

#### About FHM Engage

Frontier Health Markets (FHM) Engage is a five-year cooperative agreement (7200AA21CA00027) funded by the United States Agency for International Development. We work to improve the market environment for greater private sector participation in the delivery of health products and services and to improve equal access to and uptake of high-quality consumer driven health products, services, and information. Chemonics International implements FHM Engage in collaboration with Core Partners: Results for Development (co-technical lead), Pathfinder, and Zenysis. FHM Engage Network Implementation Partners include ACCESS Health India, Africa Christian Health Association Platform, Africa Healthcare Federation, Amref Health Africa, Ariadne Labs, CERRHUD, Insight Health Advisors, Makerere University School of Public Health, Metrics for Management, Solina Group, Strategic Purchasing Africa Resource Center, Scope Impact, Stage Six, Strathmore University, Total Family Health Organization, and Ubora Institute.

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